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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 47160	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/IT 03/00343	International filing date (day/month/year) 03.06.2003	Priority date (day/month/year) 13.06.2002
International Patent Classification (IPC) or both national classification and IPC B26D3/16		
Applicant FABIO PERINI S.P.A.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 19.12.2003	Date of completion of this report 20.08.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Vaglianti, G Telephone No. +31 70 340-2935 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IT 03/00343**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-11 as originally filed

Claims, Numbers

1-21 received on 15.06.2004 with letter of 10.06.2004

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☒ the claims, Nos.: 22,23
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-21
	No: Claims	
Inventive step (IS)	Yes: Claims	1-21
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

D1: US 3,118,337 A

D2: EP 607 761 A

D3: US-A-5458033.

2 Document D1, which is considered to represent the most relevant state of the art, discloses a device comprising:

a path extending between an entry (e.g. after the first stretch of blade (22) in the feeding direction) and a delivery (necessarily present, although not shown in D1) position, wherein the trimmings are removed between these two positions;

along the path a movable flexible member (62) and a couple of opposing parallel longitudinal fixed elements (64);

pushers (44, 67, 73) movable along a feed path, which pushers feed products and trimmings between flexible and fixed members, whereby the buckets (44) can be considered to act as, and therefore to be, "pushers" (see column 3, lines 53-55).

2.1 The features described in claim 1 starting from "the feed trajectory.." (line 17) and ending with "...longitudinal element" (end of claim 1) are not clear, and the beginning and end of the "path" and of the "feed trajectory" remain vague. Therefore, insofar as this claim can be understood, it appears that these features are disclosed also by D1, wherein the "feed trajectory" and "path" partially overlap.

2.2 The observation of figure 4 and figure 15 of D1, suggests that neither the fixed elements (64), nor the frame support of the belt (62) are designed to penetrate

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into what can be considered a "slot" (the elongated longitudinal depression, conforming to the shape of the product) of the buckets (44).

- 2.3 The subject-matter of claim 1 therefore differs from this known device in that: at least a pusher has a slot inside which the fixed longitudinal member penetrates during the movement with which the pusher feeds the series of products to the path between the flexible member and the fixed longitudinal element.

The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).

- 2.4 The problem to be solved by the present invention may therefore be regarded as securely feeding trimmings and scraps well into a path where products and trimmings can be separated.

- 2.5 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Taking into account the general layout of the machine of D1, there are no obvious reasons to modify the buckets (64) or the flights (67, 73) in such a way that a fixed element could penetrate into them.

Document D2 shows only a schematic side-view of a pusher (5) from which is not possible to derive the shape of the pusher (see figure 12).

Neither the problem, nor the solution are disclosed or rendered obvious by the document D3.

- 3 Claims 2-21 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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Claims

1. A device to eliminate trimmings or scraps (Rft, Rfc) from series of products (R), comprising:
- a path (12) for the products, extending from a product and trimming entry position and a product delivery position, the trimmings being removed between said two positions;
 - along said path, a movable flexible member (3) to retain and move the products and the trimmings and an opposite longitudinal fixed element (13) to retain said trimmings (R) extending along said path parallel to a first branch of said flexible member, at a distance from it to allow the products to advance in contact with said flexible member and with said fixed longitudinal element;
 - at least a pusher (15) movable along a feed trajectory, to feed the series of products with the respective trimmings to said path (12);
- 15 characterized in that: the pusher feeds the products and the trimmings between said flexible member and said fixed longitudinal element; and in that the feed trajectory of the pusher intersects the path of the products between said flexible member (3) and said fixed longitudinal element (13), overlapping in the final stretch the path of the products in contact with said flexible member and said fixed longitudinal element.
- 20 2. Device as claimed in claim 1, characterized in that said products are rolls of wound web material and said trimmings are head and tail trimmings produced by cutting rolls or logs (R).
- 25 3. Device as claimed in claim 1 or 2, characterized in that said fixed longitudinal element is at a lower height than said flexible member.
4. Device as claimed in claim 1, 2 or 3, characterized in that said at least one pusher (15) has a slot (15C) inside which said fixed longitudinal element penetrates during the movement with which the pusher feeds the series of products to said path between the flexible member and the fixed longitudinal element.
- 30 5. Device as claimed in at least claim 3, characterized in that said first branch of the flexible member is approximately vertically overlapping said fixed longitudinal element.

6. Device as claimed in at least claims 2 and 5, characterized in that the distance between the fixed longitudinal element (13) and the first branch of the flexible member (3) is substantially equal to the diameter of the rolls.

5 7. Device as claimed in one or more of the preceding claims, characterized in that said flexible member extends upstream of said fixed longitudinal element, in relation to the direction of feed of the products (R).

8. Device as claimed in one or more of the preceding claims, characterized in that said flexible member has a feed speed, along said path, greater than the feed speed imparted on the products by said at least one
10 pusher.

9. Device as claimed in one or more of the preceding claims, characterized in that the distance between the flexible member and the fixed longitudinal element is adjustable.

15 10. Device as claimed in one or more of the preceding claims, characterized in that said flexible member defines two adjacent supporting areas for each of said products, said areas being parallel to the direction of feed of said products.

11. Device as claimed in one or more of the preceding claims, characterized in that said flexible member comprises at least a belt.
20

12. Device as claimed in claims 10 and 11, characterized in that said belt has two parallel lips (3A, 3B) defining said two adjacent supporting lines for the products.

13. Device as claimed in claims 10 and 11, characterized in that
25 said flexible member comprises two parallel belts, each forming one of the two supporting lines.

14. Device as claimed in claim 13, characterized in that said two parallel belts are positioned symmetrically in relation to a vertical plane parallel to said fixed longitudinal element.

30 15. Device as claimed in one or more of the preceding claims, characterized in that said at least one pusher is carried by a second flexible member (17), driven around a wheel (20) positioned under said path between the flexible member (3) and the fixed longitudinal element (13), the second

flexible member defining a closed path along which said at least one pusher is made to advance.

16. Device as claimed in claim 15, characterized in that a channel (11) is positioned upstream of said fixed longitudinal element to feed the products pushed by said at least one pusher (15).

17. Device as claimed in one or more of the preceding claims, characterized in that said fixed longitudinal element is produced in synthetic material with a low friction coefficient.

18. Device as claimed in claim 17, characterized in that said fixed longitudinal element is produced in polytetrafluoroethylene (Teflon).

19. Device as claimed in one or more of the preceding claims, characterized in that said fixed longitudinal element has a laminar extension, with a rounded surface (13S) in contact with the products.

20. Device as claimed in claim 19, characterized in that said fixed longitudinal element has a reduced height in proximity to the product entry position.

21. Device as claimed in claims 4 and 20, characterized in that in the first stretch, in proximity to the product feed area, said fixed longitudinal element has a rounded form (13A) to allow travel of said at least one pusher.

22. Device as claimed in claims 1, 2 or 3, characterized in that: said fixed longitudinal element (13) and said flexible member (3) are positioned on opposite sides of a vertical median plane of symmetry of the products fed along said path (12); the distance between said fixed longitudinal element (13) and said flexible member (3) in a plan projection is lower than the transverse plan dimension of said products; and the dimension and form of said pusher (15) are such that in its action to feed the products to said path between the flexible member and the fixed longitudinal element it does not interfere with said fixed longitudinal element and said flexible member.

23. A cutting machine to cut logs or rolls (L) of web material in rolls (R), comprising a cutting tool (U) and means to feed the rolls (R), characterized in that it comprises a device to eliminate trimmings (Rfc, Rft) as claimed in one or more of the preceding claims.